The Canadian Builder and Carpenter

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THE CANADIAN BUILDER

32 COLORNE STREET :: TORONTO

Medusa
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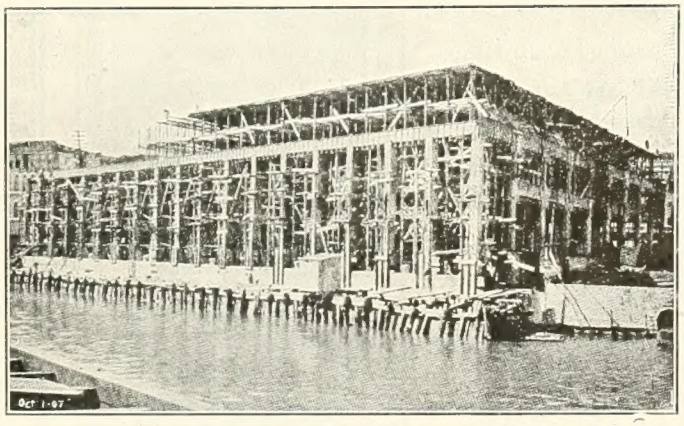


Bostwick-Brown Hardware Co. Building, Toledo, Ohio. Walls and floor are 20 ft. below water level. "Medusa" Waterproofing used in basements.

Detached Solid Brick House of Excellent Design

Erected for
Mr. J. J. Salmond
Eglington

Architects
Page & Warrington
Toronto

THE beautiful panoramic view from the hall of the house recently completed in Eglinton, Ont., for Mr. J. J. Salmond, is one of the features of the house. It gives the pleasing impression that it is a home rather than a house with the beamed ceilings of the hall and dining room; the French doors of these rooms, and the plain neat oak trim; the view of the living room with its fireplace and bookcase, and the beautiful effect of the lantern-lights and their soft amber light. With the dark fumed oak furnishings of the dining room and the easy chairs is an air of coziness that is carried throughout the whole house in the arrangement, the construction and the finishing. The house contains a number of excellent features that should be of interest to readers generally.

The house, which is 31 x 36 feet exclusive of verandahs, is situated in Eglinton on a lot 110 feet wide and 195 feet deep. The house is set back 65 feet from the walk, has 17 feet on the west side for a driveway, and ground on the east side for a tennis court. The south and east are bordered with pine trees, giving an excellent "setting" to the house.

Exterior Features.

The house is solid brick construction with a 14-inch brick foundation, waterproofed by hot pitch. All window openings have artificial stone sills, and all exterior door openings have sills of Bedford limestone.

The front verandah is 8 x 18 feet with double fluted pillars of Batt's design at either end. The rear verandah is 8 feet 4 inches x 16 feet, over which is a sun room. The front and rear verandahs have 1¼-inch pine flooring and ⅞-inch pine ceiling. The rear verandah and sun room have brick piers and shingled railing sheeted with ⅞-inch pine on the inside.

The roof is constructed of 2 x 8 ridge pieces and 2 x 6 rafters, and sheeted with matched hemlock sheeting The main roof is covered with Quebec cedar shingles laid 4½ inches to the weather on 14 lb. ply asbestos paper, doubled at eaves and ridges. The roofs of sunroom and verandah are covered with 14 oz. canvas bedded in lead and oil paint and covered with three coats of paint.

To relieve the solid brick wall, four courses of bricks are extended a distance of one inch. In addition this "band" of brick around the house gives it a bungalow effect. Another feature that intensifies this effect is the flaring or bell roof, bell-shaped pieces extending from the rafters. These rafters are exposed to view, and with the brackets, give an artistic finish to the roof. This construction gives the roof the effect of an umbrella, the wide bell-shaped roof keeping the rain away from the windows.

The Basement.

The arrangement of the basement is shown in one of the drawings. The fruit, laundry and furnace rooms are distinctly separate. The house is heated by a No. 6 King boiler. In the laundry are permanent tubs and a lavatory. The entrance to the basement is through the kitchen.

The basement floor is laid with a Portland cement concrete floor consisting of a 6-inch bed of broken bricks, etc., well pounded down, then 4 inches of concrete 6 to 1, and then 1 inch floated face 4 to 1, finished smooth and evenly graded to grating.

The drains are laid as shown in the basement plan and consist of salt glazed vitrified drain pipe, jointed in Portland cement and connected to sewer.

Interior Construction.

Reference has been made to the general excellent effect of the construction and finish. All the floors and walls are rigidly suported. Ground floor joists are 2 x 10; the first floor joists, 2 x 8; ceiling joists, 2 x 6; and verandah floor joists 2 x 8. Joists, rafters, studs, and other similar timbers are placed with 16-inch centres. The wooden walls and partitions are of the following sized lumber: plates, doors, angle and window studs, 4 x 4; common studs and braces, 2 x 4, all braced together. The studding is bridged twice in height with 2 x 4 bridging.

Throughout the house there has been laid a ⅞-inch pine floor T. & G. In the halls, parlor, living room and dining room and for 18 inches border around three main bedrooms, there are red oak floors ⅞-inch in thickness, scraped and polished.

The vestibule floor is laid in tile to blend with the general treatment of the woodwork, green and buff being the dominant colors in this floor. This work was done by Robinson & Co., Colborne St., Toronto.

The main stair has 1¼-inch nosed treads, ⅞ risers, and 1¼ strings of oak. The back stairs have 1¼-inch square edged treads and ⅞-inch risers of pine. The front stairs have seven steps to a landing where there are two casement windows. From the landing to the

first floor are nine steps. There are twelve steps in the basement stairs. In the stair to the first floor there are sixteen steps. In the basement there is a headroom of 7 feet 6 inches. The ground floor has 10 feet and the first floor has a headroom of 9 feet.

Where box frames are installed, they consist of 1¾-inch Ovalo sash, double hung in box frames, the remainder of the windows throughout are 1¾-inch casement sash with small lights, hung in stock casement frames with mullions and transoms. The casement sash are fitted with water stop and iron water bars. All casement sash open by swinging as shown in the plans and the frames are rabitted for storm sash.

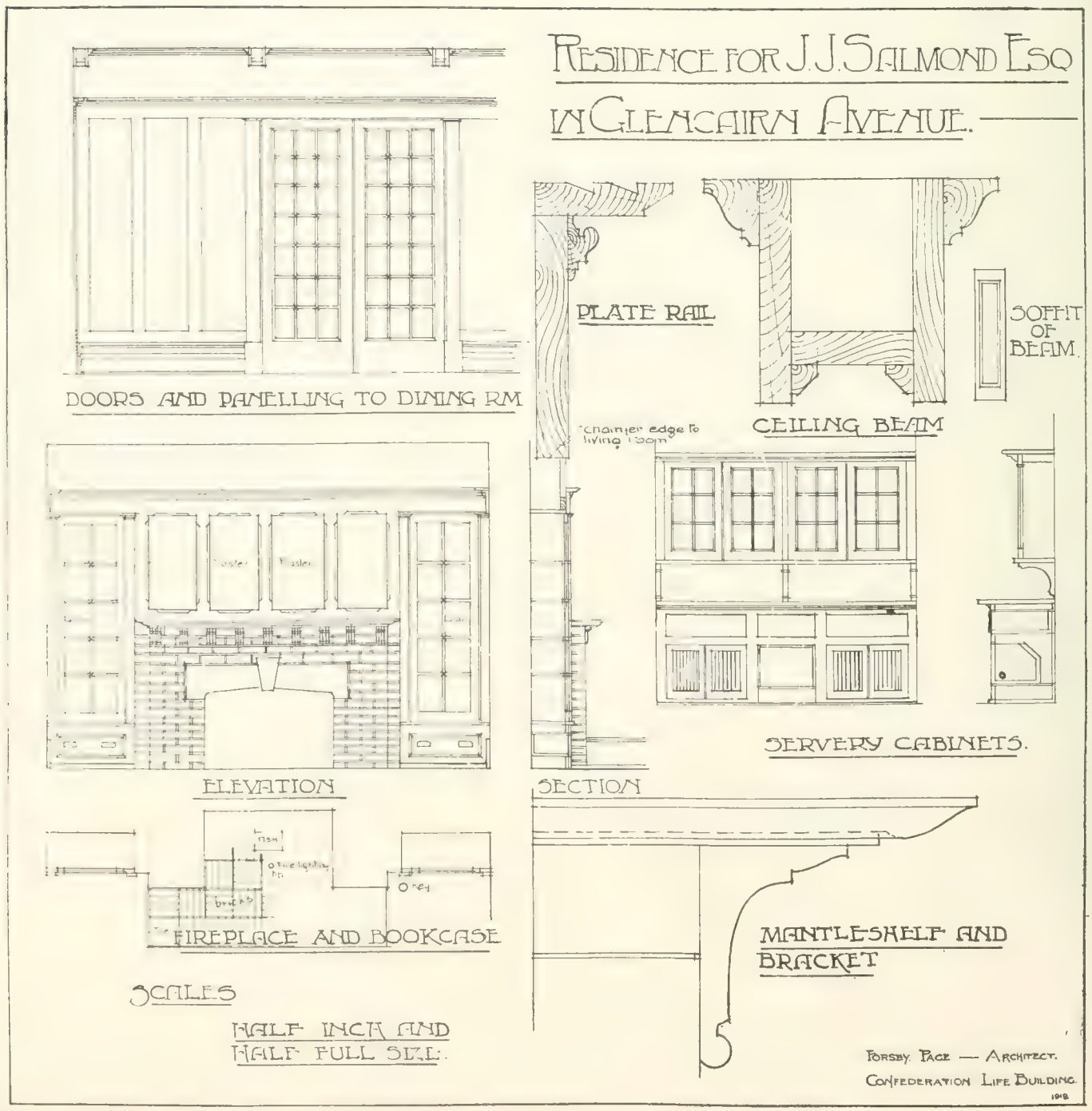
The doors are of stock design, veneered to correspond with the scheme of trim, except the front vestibule door, the door between the hall and dining room, and the door between the dining room and verandah, which are, as shown in detail drawing, French doors containing 42 lights. The outside doors are hung in solid rabitted frames and inside doors of 1¼-inch jambs with stops planted. All interior doors are 1¾ inches. The front entrance door is 2¼-inch pine, and oak inside.

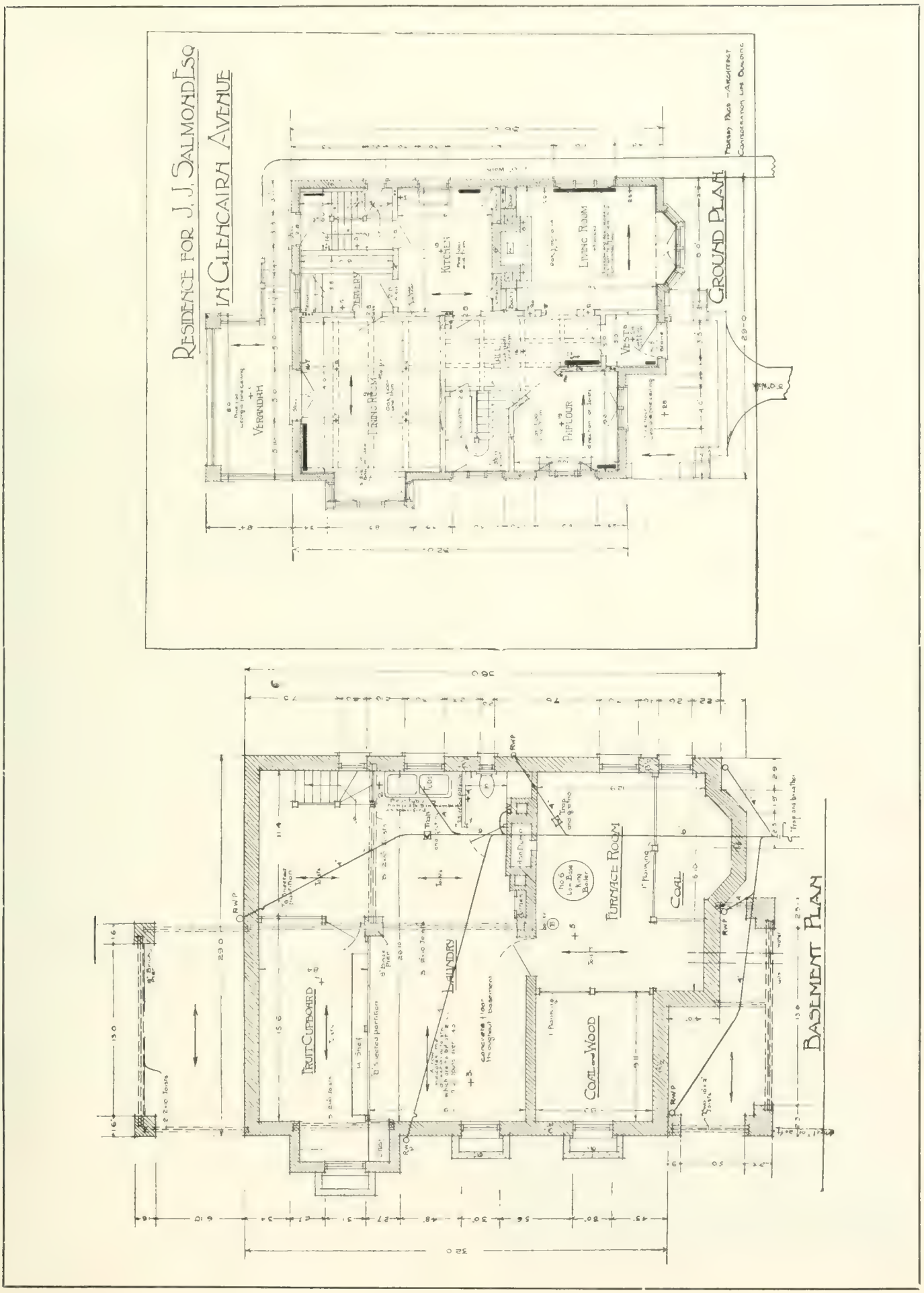
The living room mantle is shown in one of the accompanying drawings. The mantle has a 2-inch oak shelf supported on moulded brackets with wood strip panelling. On each side of the mantle are built in bookcases with drawers below.

In the dining room there is a double grooved plate rail with member for picture mould below of stock design. In the dining room as well as the hall are beam ceilings built up of ⅞-inch oak boards, as shown in the detail drawing.

Some of the Convenient Schemes Adopted.

The servery cabinets are shown in the detail drawing. It has glass doors and 1¼-inch white wood shelves. A feature in the servery is the refrigeration




RESIDENCE FOR J. J. SALMOND ESQ
IN GLENCAIRN AVENUE
GROUND PLAN
VERANDAH
LIVING ROOM
KITCHEN
PARLOUR
VESTIBULE
HALL
BASEMENT PLAN
FURNACE ROOM
COAL
LAUNDRY
COAL and WOOD
FRUIT CUPBOARD

and its relation to the outside. At the back of the servery is an opening in the brick wall, with door of two thicknesses with air space of 1 inch, through which the ice is put in from the outside. Below the refrigerator is a pan which receives the drip and is sufficient for two days' drip.

There are a number of special features which deserve mention. These include a soiled clothes chute, a full-length mirror in the owner's chamber, and a similar one in the door of the coat closet in the ground floor hall; a medicine chest with door mirror in the bathroom, and a bathroom cupboard with five shelves for bath room supplies. Another feature is a free entrance to the sunroom by means of a back hall as shown in the first floor plan instead of having to pass through a room.

All clothes closets are on outside walls and are fitted with windows for purposes of ventilation. Each closet is fitted with an electric light. There is thus light both day and at night when necessary.

The entrance to the attic is in rear hall. It is reached through a scuttle. There is a batten trap door neatly trimmed, the arrangement being counterweighted.

Finish and Lighting of the Various Rooms.

The finish of the rooms is also of interest. The room of Mr. and Mrs. Salmond is mahogany and white; the boys' room is tinted green with Flemish oak; the guest room in white enamel and the girls' room in oak. The halls, including the stairs, are fumed oak like the living room, which is fumed oak in a light tint. The reception room is also finished a light tint, the dining room being finished in a darker shade. The bath room is finished in white enamel, and the kitchen and servery are oiled and varnished.

The lighting fixtures are features that deserve special mention. They are of lantern effect, giving a soft amber light. A photo shows the arrangement in the hall which shows the effect better than it can be desvribed.

In the dining room there are lights at the intersection of the beams in addition to the centre cluster.

Rear view of Mr. Salmond's house.

For the piano there is a special light which lights the music without a shadow such is obtained when there is a centre light only. All lights are controlled from the doorways.

In the dining room is a combination floor plug with table extension for signalling the maid with buzzer. In the kitchen, also, is an annunciator with connections to front door, bathroom and owner's bedroom.

Reference has been made to the pleasing vista of the whole ground floor that may be obtained from the vestibule. This is a useful as well as attractive arrangement as it insures an excellent circulation of air in summer. Ventilation in the living room, dining room and hall is secured by means of drop windows mounted above the casements. All outside doors and windows are fitted with metal weather stripping put on by Wm. Mallott Weather Strip Co., Toronto.

The painting, decorating and glazing was carried out by Hughes & Co., 884 Yonge St., Toronto.

Town Planning Conference at Edmonton

On November 16 and 17 a Town Planning conference was held at Edmonton. At this conference a permanent organization was formed with the following officers:—

Patrons: His Honor Lieutenant-Governor Bulyea; the Hon. Arthur L. Sifton, premier; the Hon. A. Michener, leader of the opposition.

Hon. Presidents—William Pearce, D.L.S., Calgary; Dr. H. M. Tory, Alberta University.

President—Mayor Geo. S. Armstrong, Edmonton.

First Vice-President—Mayor J. W. Mitchell, Calgary.

Second Vice-President—Superintendent of Parks von Auberg, Edmonton.

Secretary-Treasurer—G. Wray Lemon, Calgary.

The object of this association was stated in the report of the committee on organization:—

"The objects of this association are to aid municipalities in their improvement and extension to insure a proper development of the town or city on hygienic, convenient and artistic lines, and to secure legislation looking to that end."

Four sessions were held, but the most satisfactory to all concerned was the Saturday morning session, when, as a Camrose man said, "They got down to brass tacks." Mayor Mitchell presided at this and the concluding session, in the absence of Edmonton's chief civic officer, and proved a very firm but fair chairman, holding the meeting well in hand and refusing to allow interminable discussion over non-essentials—those alluring little by-paths of thought which some men love to explore.

Digest of Legislation.

Clifford T. Jones, of Calgary, opened the legislative session with an admirable address upon "Legislation for Town Planning," in which he gave a digest of the German, British and Canadian acts dealing with this important phase of city development. He commended highly the John Burns' "Town Planning Act of 1909," and stated that all Canadian legislation must be modelled upon it; though, of course, with adaptions to suit Canadian conditions. Mr. Jones was followed by Mr. Geo. P. Smith, M.P.P., of Camrose, who explained his "Alberta Towns Act" of 1911, which failed to pass the provincial legislature.

These resolutions were endorsed by the town planning conventions:—

That the Alberta government be asked to pass a

town planning Act modelled after the British Act, as was done by the Province of New Brunswick.

That the convention endorse the principles of the "Town Site and Subdivision Act" presented last year by Mr. Smith, and would urge a thorough consideration of this bill at the coming session.

That the minimum width of lots in this province be 33 1-3 feet, and that legislation embodying this be, if possible, secured.

That a recommendation be sent to the Dominion Government and the Conservation Commission, urging the advisability of reserving a strip of land on each side of all rivers and along the shores of all lakes, so as to protect their public utilization.

Correspondence and Discussions

Readers are invited to send replies to questions asked by readers of The Canadin Builder and these will be paid for at regular editorial rates. Anyone desiring the names of firms manufacturing certain lines will be answered in this department.

Comments on articles published in The Canadian Builder are welcomed and all letters containing good ideas will be paid for.—Editor.

* * *

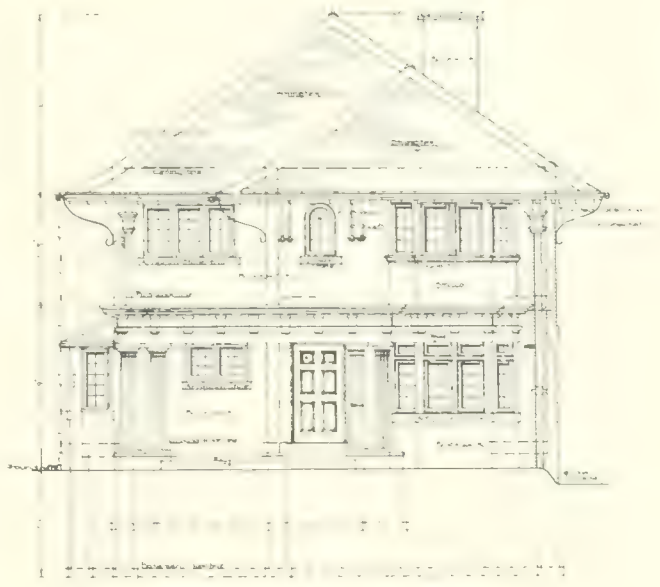
An Interesting Series of Articles.

A series of very interesting articles will be written on finishing of woodwork, metal, concrete, and the "Paint Question" generally. Readers are cordially requested to write us and ask questions on any point, and we shall be glad to give them any information possible.

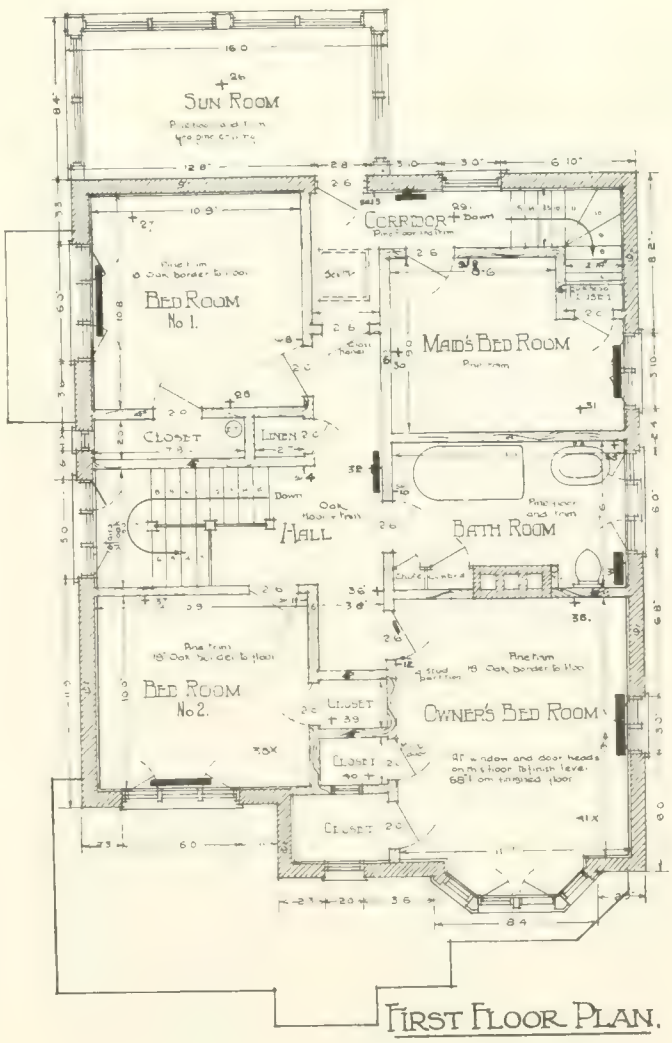
A Plea for the Paint Trade.

Luckily during the last few years all trades in the Dominion have been kept pretty well rushed with business, and none more so than the building trade This has been the cause of some of the branches being somewhat neglected by the builder. The painting end is that which I am particularly interested in and the one on which I am most entitled to speak. In the course of canvassing the trade so many times, one hears the remark, "I leave that to my painter." Now is this good enough? You master builders take trouble about the good planning of your house, the foundations, the bricks, the roof, the trim, heating and plumbing, but when it comes to painting, which is the completion of a good structure, are you satisfied with "anything will do." Surely as you patronize your doctor or your lawyer it would pay you to go into the paint end of your business and learn what is offering to-day. Consult the manufacturers and find what different lines they can offer you. They are seeking daily to please you and give you better value than the other man, and who, unlike the doctor, do not charge you for information you seek.—F.S.

Mr. F. Sturgeon, of Sturgeon's, Limited, the well-known firm of Toronto who handle and make a specialty of lines imported from England, is travelling West in January. He is appointing further agents and is on the lookout for "live wires" who are able to interest the building trade. Among the chief lines this firm is handling is "Solignum" wood preservative and stain, made by Major & Co., Ltd., Hull, England, and another is "Garipan" lacquer enamel made by Randall Bros., of London, England.



Front elevation of Mr. Salmond's house.



FIRST FLOOR PLAN.

Artistic Panels at Montreal Warerooms of Standard Ideal Co.

The accompanying illustrations show "The Steel Workers," two handsome tile panels, recently placed on the walls of the vestibule of the Standard Ideal Co.'s building, Montreal, Canada. Both are done in weather-resisting glazes and colors, which, of course, is of great importance where the work is exposed to the action of the elements in a severe climate like Canada. Each panel is 6 feet high and 2 feet wide, made of 6 x 6 tiles with a matt ivory glaze as a foundation for the coloring. Favorable comment has been made by "Brick and Clay Record," Chicago.

The painting is executed in matt enamel colors applied over the glaze, one advantage of this method of decorating being that any style of historic mural painting can be faithfully reproduced, whereas, with hand-wrought faience mosaic work, the tiles are often so crude in outline that the entire design is completely obliterated. Professor Charles F. Binns gave voice to his sentiments on this subject recently when he declared: "A few years ago architects and builders were seized with a passion for accuracy and uniformity. Brick must be sorted to a mechanical exactness of shade, roofing tile must exhibit the single color of painted tin, each tile matching its fellow, and wall tile must be so true and level that even an oblique light would show no undulation. A revolt was sure to come and architects began to search the cull piles for odd and freakish effects."

"The Steel Workers" have been favorably commented upon by various art journals, trade magazines and daily newspapers. In fact, from an artistic standpoint, this tile work and the method of painting is something quite novel. The style of Fig. 1 is somewhat realistic, while Fig. 2 is very much the opposite and really quite German L'Art Nouveau in conception. As the panels are placed some distance apart, in the vestibule, two distinct styles of paintings were permissible. Cartoons for both were painted and originated by Stewart C. Hinds, the actual painting in ceramic colors being done by Eugene A. DeLan. These artists are members of the designing staff of the Trent Tile Co., Trenton, N.J., which company made the tiles for this contract, and at the present time is doing a great deal of tile work in overglaze decoration.

Fig. 1.—"The Steel Workers," a realistic tile panel.

Fig. 2.—Idealistic conception of "The Steel Workers," a tile panel.

Amendment to Regina Building By-Law

An amendment has been made to the Regina Building By-law allowing one-storey buildings to be erected in the city. The by-law stipulates that the one-storey buildings erected within the business district must comply with the following conditions:—

The walls, if not over 30 feet in length, 38 feet apart, and 12 feet in height from floor to ceiling shall be of brick at least 9 inches in thickness, and shall have footings of concrete at least one foot in depth and two feet in width.

All one-storey buildings exceeding said dimensions shall have their footings increased in proportion to the size of the buildings.

Should the walls exceed the above dimensions and be not less than 25 feet and not more than 50 feet apart, they shall be reinforced with 4½-inch pilasters of buttresses at intervals of not less than 15 feet, or be increased to 13 inches throughout.

Should the walls be 50 feet apart or over, they shall be at least 13 inches in thickness and reinforced with 4½-inch pilasters or buttresses at intervals of at least 15 feet.

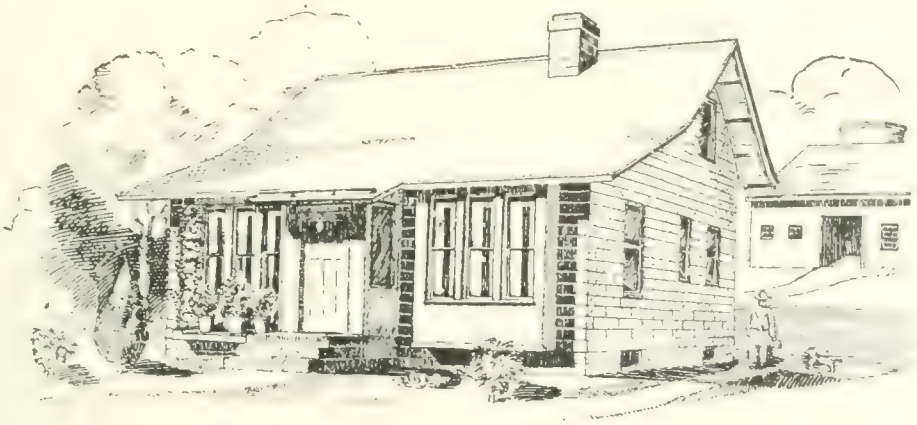
The walls and partitions may be lathed with good lath provided that proper fire stops be placed at the bottom, top, and midway, equal in thickness to the furring strips.

Banquet of St. Catharines Builders' Exchange

The first banquet of the St. Catharines Builders' Exchange, at the Grand Central Hotel on November 22 was a magnificent success. Mr. Charles Chapman, president of the Exchange, presided. The Exchange of Toronto was represented by Mr. George Gander; that of London, by its president, Mr. W. T. Nutkins and Mr. T. H. Martin, and that of Hamilton by Messrs. James Evans, James McNeil, Chas. Widdup, Wm. Murray, Geo. F. Smith, Wm. Beveridge, R. W. Miller, R. W. Nicholson and A. Heatley.

Pulpstone

A booklet from the Alabastine Co., Paris, Ont., sets forth the advantage of Pulpstone for plastering, and gives some interesting information in regard to it. One hundred pounds of Pulpstone covers from six to eight square yards of surface with a heavy coat. For inside use it is wet down with water, and for outside it is mixed with five to ten per cent. of Portland cement.



Design of a Cement Block Farm House of Low Cost

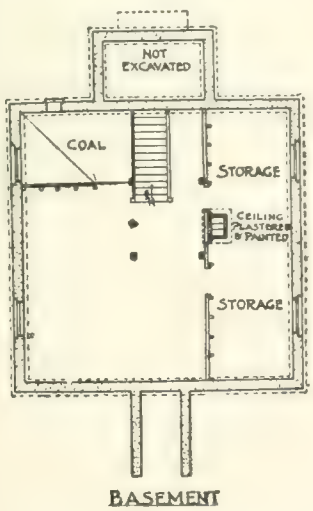
Architect:
A. A. Pollard, Minneapolis

A SIMPLE design of a concrete house, and one that, under ordinary conditions, can be built for $2,000, including heating and plumbing, is shown in the elevation and plans shown herewith. It is in no sense a cheap house, but has good lines and is particularly planned for a farm dwelling. The "utility hall" holds milk cans and the sundry articles that are otherwise brought into the kitchen. The cellar entrance is handy. Each bedroom has ample closets and there is a large storage space under the roof.

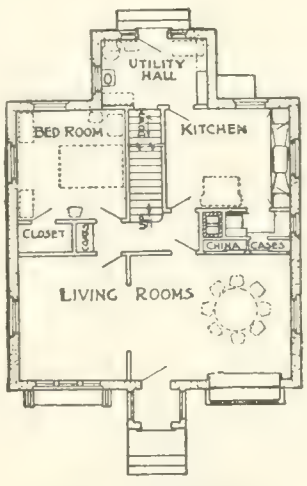
A full second story could be built with little extra expense, thus utilizing the storage space for another room and giving a full attic above.

The walls are of cement blocks, with an air space. The inner wall surfaces are furred and plastered. The outside needs no treatment. Preferably, a plain face block should be used as the rock face pattern is so regular that the effect is tiresome.

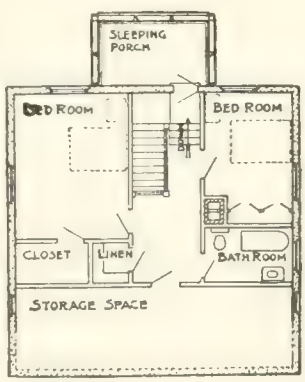
The farm home cannot be a duplicate of the city residence, as the needs are very different. This plan is simple and suited especially to rural needs. The plumbing takes for granted a pressure supply from an elevated tank, which is not unusual to-day among progressive farmers. The upstairs sleeping porch is just as much appreciated in the country as in the city, where almost every house has one or more. The wall material is the same as is used in $5,000 to $10,000 houses. Though low in cost, it makes an attractive wall, is proof against the weather and gives low heating costs.



BASEMENT



FIRST FLOOR PLAN



SECOND FLOOR

The Canadian Builder
and Carpenter

A Practical Paper Devoted to all Branches of the Building Trades

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Vol. 2 TORONTO, DECEMBER, 1912 No. 12

Town Planning

The Canadian Builder and Carpenter has endeavored to set before its readers in concise shape, the meaning and principles of Town "Planning." The following are sections of a by-law discussed before the "Institute of Western Canada Civic Building Superintendents" in Calgary recently. These clauses should appeal to builders generally.

No apartment house shall be erected in the residental district unless the consent of two-thirds of the owners of the land in the block in which the erection is proposed is obtained.

In no case shall any portion of the wall of an apartment house in the residential district be built within three feet of the lot line, and subject to any further restrictions as to distance from the street or lane in this by-law contained.

No apartment house shall have living rooms in basement excepting quarters for janitor, unless basement ceiling is at least six feet above grade level, in which case the basement shall be considered as a storey.

At the rear of every lot containing a new apartment house there shall be a yard open and unobstructed from the earth to the sky. Every part of such yard shall be directly accessible from every other part thereof.

Every pipe or funnel for air shall be carried above the roof of any building in connection with which the same is used, and no such pipe or funnel for conveying steam or hot air shall be fixed next any public street or highway on the front of any building, nor shall any pipe, funnel or flue for conveying fire, smoke or hot air be fixed on the inside of any building nearer than four inches to the face of any timber of roofs, ceilings or partitions, nor shall any funnel, pipe or flue pass through any timber framing or partition of wood, or wood and lime or through any wooden floor in any house, outhouse or fence or building whatever within the city unless the same shall be encircled by a rim of solid stone or brick or metal not less than five inches wide and equal in thickness to the full-finished thickness of the framing through which such pipes shall pass and shall terminate in a chimney of stone or of brick and mortar, and in no case whatever shall any stovepipe be allowed to pass through any roof or side of any house, and in case of hot-air heating all wood work shall be protected from hot-air flues by a covering of iron, zinc or tin, leaving an air space between such woodwork and covering of at least one inch in width.

* * *

The side walls of all wooden buildings hereafter erected shall be placed not less than 30 inches from the lot lines but no wooden building shall be erected on a 25-foot lot of more than 19 feet in width. The side walls of all frame buildings hereafter erected when veneered with brick or stucco, as defined under the lot lines, provided such building, or any part of the same, is used for living purposes, and provided that light or air are supplied to any room or rooms by means of windows or other suitable device on such side or sides.

No frame buildings shall be erected, the least dimensions of more than 50 feet, unless the building is divided by approved fire walls every fifty feet.

This shall not apply in the case of corner lots facing streets or avenues.

In case corner lots are re-divided so as to front other streets or avenues than called for on original lay-out, it shall be unlawful to erect any dwelling thereon, unless the re-divided lot shall have at least 3,000 square feet of area.

* * *

Before any new building can be occupied, a certificate must be obtained from the Sanitary Inspector, stating that the sanitary requirements have been complied with and that the dwelling is fit for occupants.

It shall be unlawful to use any rooms in office buildings hereafter erected for living purposes, unless all requirements applying to apartment houses are complied with.

All rooms in buildings used for sleeping purposes shall have at least 500 cubic feet of free air space per person.

All rooms shall have window glass area, equal to at least 10 per cent. of the floor area.

No building shall be erected in the residential district unless the foundation and wall of such building is situated at least twenty feet from the street line. In case of lots being subdivided differently from the original plan as registered, the provision of this section shall apply to buildings constructed on such lots as subdivided. Provided, however, that any building erected on a corner lot or lots shall be kept back twenty feet from the street or avenue on which other buildings front, which are or may be afterwards erected on the lots in the said block according to the original plans as registered. Provided, if the written consent of all the property owners in the block where the erection is proposed is obtained, compliance with this section is not required.

* * *

All pantries and cupboards for storage of food stuffs shall be ventilated either by a window opening to direct outside air or light court, or directly connected to a vent of at least fifty square inches in area.

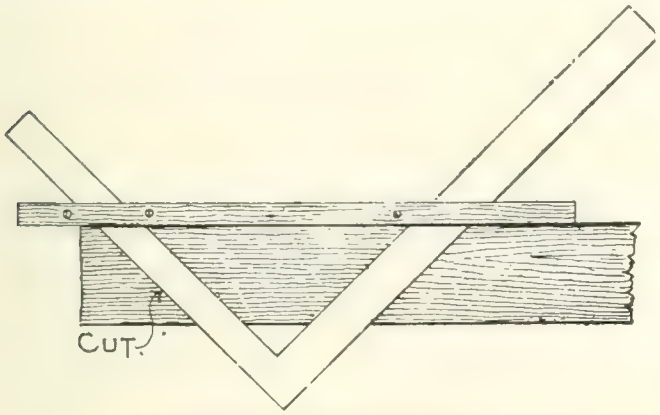
All buildings hereafter erected shall be equipped with a positive system of ventilation to the satisfaction of the Sanitary Department.

All apartment houses and business blocks now or hereafter erected shall be provided with approved refuse and garbage receivers to the satisfaction of the Sanitary Department and placed as they may direct.

Carpentry and Woodworking

Using Steel Square as Mitre

A writer in a recent issue of Carpenter and Builder gave a sketch, which is here reproduced, showing how a steel square was used by a carpenter for a mitre bevel, while putting together cabinet door trim. He



Using a steel square as a mitre.

had a fence piece clamped on at the 12-inch mark and on each arm. This is not new in a way, but I had never seen it applied in that way before.

Birch as a Door Material

Birch is being used extensively by the northern millwork factories, and it is hard to distinguish cause from effect. Whether birch has been a factor in spreading the fame and use of the veneered door, or whether the veneered door has been the greatest factor for providing a market for birch, is hard to say. People who want a mahogany interior without buying mahogany have found that they can buy birch and get a very likely substitute. One of the chief consumers of birch has been the hotel architect, and many a "mahogany" interior is due to the use of this wood. The laity is not able to distinguish between the imitation and the real, so far as mahogany is concerned, and, taking in a hotel interior at a glance, assumes that it is mahogany, when as a matter of fact it is only birch cleverly manipulated and artistically finished. One thing in favor of birch and other mahogany substitutes is the fact that they can be used in connection with actual mahogany furniture without the mill work and the furnishings appearing incongruous.

Among men who design interiors it is a rather notable fact that green seems to be the color most popularly in use for carpets, draperies, etc., where mahogany or imitation mahogany is employed. Birch millwork, mahogany furniture and green carpets and curtains present a sumptuous effect that is quiet and charming to the eye.

Birch is, of course, not only wood that is being employed in imitation of mahogany, for gum also is being used for some fine effects. Birch, however, is the pioneer of this finish. In hotels built a decade ago one will find birch with a mahogany stain, while hotels now being erected will use birch or gum in mahogany imitation, and it takes an expert eye to tell the difference.

Birch also is being used extensively in painted doors. A door which is gaining ground is one with fir stiles and rails and birch panels. With this combination it is possible to produce a light and strong door for painting which can boast of very high quality. As a door and millwork material birch has certainly made place for itself, and a place that it shows every indication of maintaining.—American Lumberman.

Something New for Sash and Blind Manufacturers

By Richard O. Newbaker

Probably some of you millmen have noticed long ago that the manufacture of blinds is not what it used to be. Especially is this true of the smaller cities and towns where nowadays you hardly ever see a house erected that is equipped with outside blinds.

Recently, while in a neighboring city, I had occasion to visit an old carpenter, who, having had blinds on his windows had removed the slats and cut a rabbet 5/8 inch wide and 3/8 inch deep in the frame of the blind. In winter time he puts glass in these blind frames, they making a good outside window, protecting the house from cold and keeping the windows from freezing.

In the warm weather season he removes the glass and puts his slats, which he has fitted in a frame to fit the rabbet he cut in the blind frames.

Thus in an instant he can change from blinds to outside windows or windows to blinds.

Wouldn't this be a good idea for some sash and blind manufacturer to adopt? Given a good trial, it would surely prove to become popular.—Wood Craft.

Waterproofing Floors

In factories, one method of securing a waterproof flooring is to lay 4-inch pine with a top of 7/8-inch maple with an intermediate flooring of 7/8-inch pine. The general practice is to lay the top flooring and the under-flooring the length of the building, while the in-

Method of waterproofing floor

termediate flooring is placed diagonally with ordinary building paper between. This form of construction prevents dust from going through, but does not effectively prevent water.

To thoroughly waterproof an impervious felt. This waterproofing felt is placed between the top flooring and the intermediate flooring. Two sheets of this felt are customarily used, being cemented together with an elastic hot compound which snugly and tightly fills all nail points. Each sheet is lapped 19 inches over the preceding sheet of waterproofing, being turned up 2 inches at walls and openings, and also around columns, pipes, etc. At times to insure results as each plank of the top floor is laid the hot compound is spread under it and over the felt already in place making the joints between the top flooring itself practically water-tight.

Building in Vancouver

The following English view of building conditions in Vancouver, B.C., appeared in the "Illustrated Carpenter and Builder," London, Eng. It covers wages and building conditions generally.

At the present time there is plenty of work of all kinds going on in Vancouver, but there is no shortage of labor. In fact, I believe the supply more than meets the demand. The average wage of the different workmen is as follows: Laborers on buildings, $2.75 per day (those working for the city in the making of roads, etc., get $3 per day); bricklayers, $6 per day; carpenters, $4.25; plumbers, $5; plasterers, $6; stonemasons, $6; painters, $4.25; electricians, $4. Workmen in the building trade work eight hours a day, four hours on Saturday. Tile setters get $6 per day and marble setters $6 per day.

Living in British Columbia costs more than in the other Canadian provinces, and as a consequence wages are higher here.

The age of the city of Vancouver is about twenty-five years, and it has made wonderful strides in every way; indeed, people coming to visit the city are surprised to find such a large and busy one. It is a very English city in appearance, but there are now two very high buildings ranging round 260 feet, and one of these is claimed to be the highest in the Empire; they are the World Building and the Burns' Block. Another high building is the Rogers' Block. Among the population are numbers of foreigners of all nationalities. They are mostly engaged in the rough laboring work. At this time of the year gangs of men are engaged making the roads and building sewers. The majority of the residences are of wood, so that numbers of carpenters are employed in building them. This does not imply that a lot more men are required, because at present there seems to be no scarcity of men, but still they are more in demand than other trades, and prospects for all are much better out here than in the Old Country.

The carpentry and joinery of some of the residences, and in some cases in the larger buildings, is not to be compared with English work. They do the work out here in such a way that it takes very little time to build a house. The majority are frame houses, built of studs or posts 2 in. by 4 in. or 6 in., 16-in. centers, and resting on a plate either 2 in. by 6 in. or 2 in. by 8 in., as shown in Fig. 1 of the sketches.

But you have no doubt seen an American building construction book. A point to be noted about these houses is that the house itself is in no way secure to the foundations. It simply rests on the concrete as shown. That is the reason one sees a house perhaps in the middle of the street being moved. I happened to see one shortly after my arrival here. A chimney stack was built inside the house right up the centre, but the moving did not seem to affect it. If a gale was to blow here, as in England, I am certain some of the houses would be blown over.

The posts are placed on the plate and simply nailed, not let into the plate at all, but nailed as shown in Fig. 2. And what a job it looks, too. Joists are never tenoned to each other, but nailed as in Fig. 3; also they do not house the treads and risers, but do it as shown in Fig. 4. They cut a piece of wood as bearers and nail the treads and risers to them.

From this you will see why houses are built so much quicker than in England. They don't, however, last as long as a good, substantial English house. (As regards bricklaying, English bricklayers and stonemasons will be glad to know that their fellow English workmen out here are always praised for the good work they do. They all know nobody can beat the English bricklayer.)

Architects preparing plans do them on a quicker system than in England. Working drawings they do not color. The different materials are marked each in a certain way, and a key is put on every sheet if required.

Thus brick walls A, stone walls B, concrete C, and wood walls D. Blue prints are taken of the original tracings, and the blue prints are the contract drawings, not the original tracings. Coloring is done on occasions where a sketch is required, or materials marked on a full-sized detail. Then more often a colored pencil is used. From this you will see how quickly sets of drawings can be prepared.

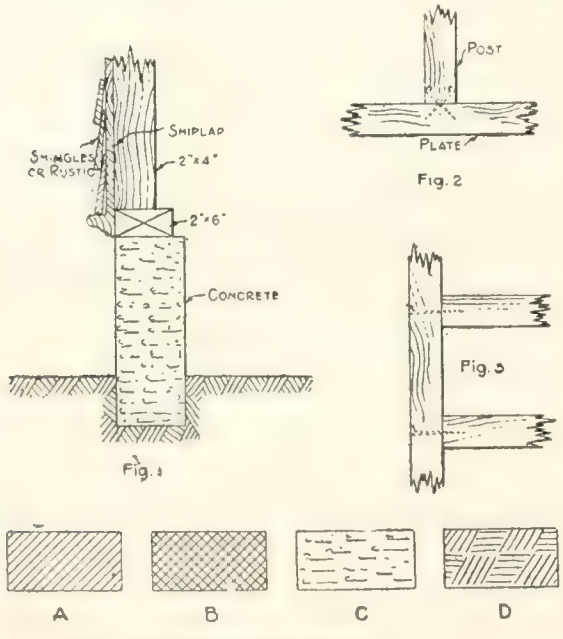


Fig. 1.

Fig. 2

Fig. 1. Water table construction.
Fig. 2. Method of fastening post to plate.
Fig. 3.—Arrangement of joist.

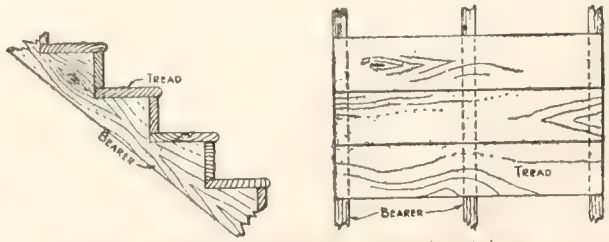


Fig. 4.—Showing method of constructing stairs.

Brick Work, Concrete Work and Plastering

The Use of Joints

"Where a finish is applied to a structural concrete floor slab reinforced with steel throughout, and where every means are taken to bend the finish to the underslab, there is no excuse for the line joint which is so generally used. It does not prevent cracks; it is only used because it is conventional. The first trouble experienced with the concrete floor arises from the breaking down of the edges of these joints, manifestly they therefore should be omitted.

"Basement pavements should be laid in as large blocks as possible. A 10 x 10 block of 4-inch pavement laid on a good bottom is reasonably free from danger of cracking. Structurally, it is probably better to lay the floor continuously without joints and let cracks occur when they may."—Leonard C. Wason, President of the Aberthaw Construction Co., Boston.

Hardwall Plaster

By R. Cale

Hardwall plaster is a cement plaster made from calcined gypsum rock ground very finely, to which hair or other ingredients are added to obtain the proper plastic and working qualities. This plaster is shipped in bags, and is ready for use as soon as mixed with sand and water. Hardwall plaster is mixed in exactly the same way as portland cement, the proportions for ordinary work being two of sand to one of plaster. On metal lath slightly less sand is used, and on brick walls the proportions are about three of sand to one of plaster. One ton of Hardwall (any standard brand) will cover between 250 and 300 yards. It will set up hard in from two to four hours, and dry in about 56 to 60 hours, when it can be recoated with ordinary lime putty.

Hardwall plaster may be recoated sooner than this if prepared finishing plasters are used. There are many points of advantage with the use of Hardwall over ordinary lime mortar. For instance it is from four to ten times as strong as lime, it is uniformly mixed by machinery, and there is no danger of careless or indifferent workmen spoiling it in the manner so common where lime is used and improperly slacked. It being of a much denser nature than lime it is a better non-conductor of heat and cold. Hardwall plaster does not deteriorate when kept in stock as does lime. This is particularly true of wall plaster made from grey gypsum rock. That made from the white gypsum rock will deteriorate considerably in about three to six months. On the other hand lime mortar, if exposed to the air, will become useless in a very short time.

As an illustration of the class of work on which Hardwall plaster is used, would say that such buildings as the Transportation Building, Montreal; the new C.P.R. Windsor Street Station, Montreal; Herald Building, Montreal; Shaughnessy Building, Montreal; the new C.P.R. Building, Toronto; Bank of Hamilton, Hamilton; and in fact almost every building of importance being put up in large centres of Canada are plastered with Hardwall Plaster.

Used Extensively in the West.

In the West practically all the plaster used is Hardwall. There is another form of Hardwall plaster called Wood Fibre. This is made by adding wood pulp at the mill in place of sand. It is an even stronger and better plaster than the ordinary Hardwall, and is used in large quantities in all parts of Canada. Wood Fibre has the advantage that it can be finished up in one coat, and while there is a large saving in time by the use of Hardwall over lime, there is still another saving in the use of Wood Fibre over ordinary Hardwall. The price of Hardwall plaster per yard on the wall should be very little, if any higher, than that of lime mortar. In fact a number of dealers supply both at the same price, while others refuse to accept any contracts for lime mortar at all preferring to supply Hardwall plaster at the same price on account of the satisfaction in using it.

How to Patch a Concrete Floor

When a cement floor surface begins to wear it is often desirable to patch it. Leonard C. Wason, president of the Aberthaw Construction Co., Boston, in a recent paper states the right way and the wrong way.

The Wrong Way.

Commonly a sand and cement mortar is made, some cutting is done and the mortar is put in and scrubbed with a steel trowel until smooth. It is then covered up for a while. If the concrete under the patch is left dry it soaks up the water of the mortar. As a result, the mortar does not set. If the room is hot or dry, the surface of the patch dries out and for the same reason it does not set. If the concrete under the patch is dusty the patch does not adhere to the concrete. If the materials in the mortar are not suitable, naturally the patch wears badly, particularly as it is obviously located at a point of severe wear.

The Right Way.

Cut down the worn place at least one and a half inches. This cutting should be carried into the strong unbroken concrete and the edges should be cleanly undercut. The bottom of the cut should then be swept out, clean-blown out with compressed air or a pair of bellows, if available, then thoroughly wet and scrubbed with a broom. In this way, small loose particles of broken material which the chisel has driven into the surface are removed. A grout made of cement and water about the consistency of thin cream, should be scrubbed into the pores with a broom or brush, both at the bottom and sides of the cut. Following this a stiffer grout, about the consistency of soft putty, should be thoroughly compressed and worked into the surface, which has already been spread with grout. Finally, before the grout is set a mortar of one part cement to one part crushed stone or gravel, consisting of graded sizes from ½ inch down to the smallest excluding dust, should be thoroughly mixed and put in

*Of Alabastine Co., Paris, Ont.

place then floated to a proper surface. Cover with wet bagging, wet sand, sawdust or other available material. All trucking should be kept off and the surface kept thoroughly wet for at least one week or ten days.

If a particularly hard surface is required, 6-penny nails are sometimes mixed with the mortar and other nails stuck into the surface when the patch is finished. This will produce a surface which is extremely hard and durable.

Stain for Pressed Brick Fronts

A recent issue of the "Painters' Magazine" contained the following articles on a reliable stain for use on pressed brick fronts. "We have known of red brick stain that was made by mixing dry Venetian red with water into a pulp, pressing it through a sieve to break up lumps that formed in mixing, then adding enough stale ale or beer to make the stain of proper consistency. To each gallon of this mixture was added one-quarter pound of calcined green copperas (iron sulphate), previously beaten up with a portion of the stain to a thin batter. This is the mordant, or fixative, without which the stain would finally wash off from the effects of rain. The calcined copperas is produced by heating green copperas in an unglazed earthen pot or pan, thus driving off its water, under which process it falls into a dry whitish powder.

"As a more durable and permanent stain, however, we would suggest the following: Take Venetian red that has been ground in pure linseed oil in stout paste form, or if the stain is to be of lighter shade a mixture of Venetian red and French yellow ocher, both ground fine in linseed oil, and beat up the paste with a small portion of a good turpentine japan to a smooth semi-paste, gradually adding in small quantities, while stirring, a mixture of one part by measure of 90 degree benzol or good solvent coal-tar naphtha and four parts by measure of turpentine, until the proper consistency of stain is had. Strain through cheesecloth and throw away the coarse particles, as these would remain on the surface and be of no benefit in sealing the pores of the brick. An excess of oil in the stain must be avoided, as it is apt to produce shiners."

Chimneys and Flues—A Fable for Builders

Last summer a good citizen of a certain town not over a hundred miles from almost everywhere, built a wooden house for a woman and her children. He built the chimney of brick because he had to. The chimney was able to stand alone, so he did not have to prop it with wood. But the floors of the house would not stay up without props. The good citizen saved a dollar by using the chimney as a support to the floors. He nestled the ends of the floor joists nicely in the brick of the chimney. He covered up the job and got his money.

The rains fell and the winds blew in the most biblical manner, and winter came after its fashion. The chimney settled a little; and there was a tiny crack.

One morning the woman woke up with fire all about her. She tried to get to her children. If she got to them no one ever knew it. The good citizen who built the house was not arrested for manslaughter. He is building other houses of the same kind for other women and children.

He is making his living by it.—Courtesy National Fire Protection Association, Boston.

Builders' and Contractors' Machinery and Supplies

This is the title of an illustrated catalogue, No. 35, of 78 pages issued by the Chicago Builders' Specialties Co., 450 Old Colony Building, Chicago, Ill. It shows the complete lines carried by this company including metal work of all kinds, metal lath, twisted steel bars, concrete mixers, hoists, derricks, cranes, pumps, gas engines, bar benders and cutters, car loaders, silo forms, sidewalk forms and tools, carts, etc.

The plants of the Canada Cement Company at the present time are operating on an output of 8,000,000 barrels a year, but with the extensions to present plants and new ones being erected, the company expect by the first of August of next year that there will have been an increase of 50 per cent. in output, bringing the total output for the year to over 12,000,000 barrels.

A fable for builders
The result of a badly built chimney.

New Equipment and Supplies

Stains

By F. Sturgeon, of Sturgeons, Limited, Toronto

This covers an enormous field and we will first of all deal with those utilized for exterior use on lumber.

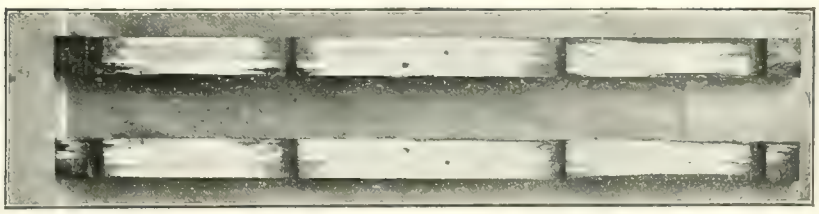
The first essential for an external stain to be considered is the vehicle or carrier for the color. As when using a stain it is necessary to use something which will at the same time protect the wood, prevent its checking, splitting, warping and suffering generally from exposure to the elements, and, as a result, decay.

Parkdale Canoe Club, Toronto, treated with brown Solignum. This building would have looked very heavy if it had not been for the relief given by the white sash and the supports to the verandah and doors all round the building. 40 gallons were used on this building, which had about 60 squares of shingles.

Among all the various processes in use to-day as preservatives for wood, the only one that stands out as commercially and practically possible is that in which the oils of coal tar (not wood creosote) are used, therefore we may accept the oils of coal tar as being the most suitable for the base of a satisfactory stain. Naturally it would not do to employ the light oils which would evaporate, therefore the heavy oils should be taken so that it remains with the wood, besides which the heavy oils contain the needed acids which form the preventive against the formation of decay or deterioration in the wood. Although some of the most beautiful dyes of various hues are obtained from coal tar, yet it is impossible to use them for exterior use because they will fade on exposure to the atmosphere in a few hours. It is therefore essential to utilize very special colors made from the finest metal pigments. Only the very best of colors will stand in such a base as coal tar oil.

The cost of the material should be judged by its covering power and penetration. Generally those that go the furthest are the ones to choose, because it means they are not volatile. A good color stain for outside woodwork should cost somewhere between $1 and $1.50 per gallon, and should cover 400 sq. ft. on dressed lumber and 150 sq. ft. on shingles when finished. A stain and preservative may be well adapted to interior staining as because of its penetrating power it must of necessity show up the grain of the wood.

The economy of a wood preserving stain is enormous, and when used in conjunction with a little paint its effect is enhanced many times. The photographs shown demonstrate the use of a large mass of one colored stain enhanced and brought out by simply the window sash and columns being painted white.



This photograph represents one of thousands of telephone cross-arms treated with Solignum. This cross-arm was dipped in Soligunm, allowed to stand for three days; it was then sawn in halves and immediately photographed. Note the penetration of Solignum round the pin holes and at either end. This is where decay starts first—Solignum goes in where needed.

"Peerless" Hangers and Fasteners

In the following illustration are shown the applications of Peerless hangers and fasteners, manufactured by Cowan & Britton, Gananoque. It will be seen that with a hanger such as that illustrated, the only operation when putting on storm windows or a full size screen is to hook it on.

Many advantages are claimed for it, one being that the storm window can be swung open to allow cleaning of the window as shown in Fig. 1. Figs. 2 and 3

A house on Carlaw Avenue, Toronto, measuring, without front or back verandahs, 22 x 30. All woodwork, including verandahs, window frames and shingles were treated with brown Solignum, the strapping and verandahs receiving two coats. Twelve gallons were used. The sash and verandah posts were painted with Paripan. Total cost of material was under $15. One of the chief points to be considered in treating a house in this way is the saving of up-keep. The Solignum would not require renewing for a number of years, and the Paripan enamel should be good for at least 8 years.

show how the storm window is hooked or unhooked. The hangers may be attached to any shape of window as shown in Figs. 4, 5 and 6.

One important feature is that they allow ventilation even in stormy or windy weather. The storm sash is opened from the bottom and held open by the fastener shown in Fig. 7, which locks and holds it in position. The lower inside window is closed and the top window pulled down. The air enters at the bottom of the storm window, flows up between the two and enters through the top. This arrangement also prevents the snow and rain blowing in when the window is open for ventilation. In the spring a screen may be substituted for the storm sash.

Builders' Hardware

Did you ever size up a residence by the looks of the front door knob and lock? Of course you have, and so too have many others. Quite the most prominent thing about an entrance door is its hardware—the bell or knocker announcing your arrival, the lock giving safe security to those within and a knob to which the hand instinctively goes out.

It seems needless then to say that the front door hardware is important. It is not only the most prominent thing about the entrance door, it may also be the most decorative, and by its appearance we have come —sometimes without knowing it—to "size up" the quality of the entire house.

And if this is true of the front door hardware, how much more true it is of the hardware trim on the inside of the house. The one feature that more than any other indicates the quality of a residence is the builders' hardware that is used—a very small item of expense itself, amounting to less than two per cent. of the total cost of a dwelling even when the finest grade of hardware is used, the hardware trimmings are in such prominence that they dominate the entire structure. Cheap builders' hardware goes with a cheap house; high grade builders' hardware gives the entire interior the look of quality. For these reasons it is an exceedingly good investment to use high-grade hardware trimmings on all work.

Development of Builders' Hardware.

The great hardware concerns of America to-day have developed the mechanism of locks and catches, casement hardware and transom adjusters, etc. At the same time, the manufacturing processes have been so improved that the best in builders' hardware can now be afforded by all builders for all types of structures. In fact, even though the cost were far greater than it is, good builders' hardware would still be the only really economical sort.

And for this very reason, we suppose—namely, that the builders' hardware is such a relatively small item of the total cost of a building—the practice has been all too common of putting off the selection of the hardware until practically everything else has been provided for. When the builder "gets right up against it," he hustles out and picks up almost anything that looks like hardware—without giving it any thought or study. He spends the few dollars that are left, after most everything else has been arranged for. And the owner has to be satisfied as best he may.

The object of this article is to impress carpenters, builders and architects with the importance of builders' hardware and the necessity of making an early and careful selection.

Urge and advise the owner to make a large enough appropriation for this item so that real satisfaction can be had. The locks are the defence of the home, and the proper selection of the ornamental trim is an im-

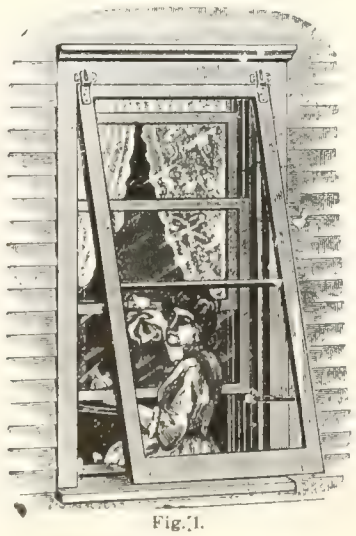


Fig. 1.

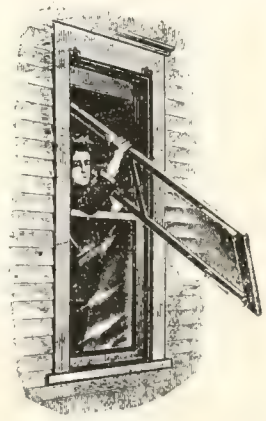


Fig. 3.


Fig. 2.

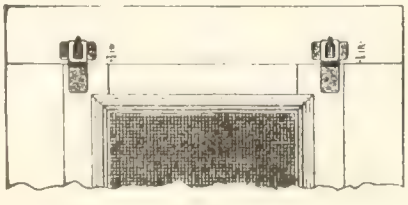


Fig. 4.

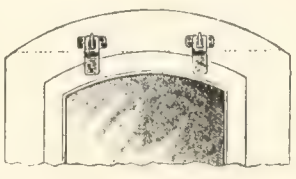


Fig. 5.

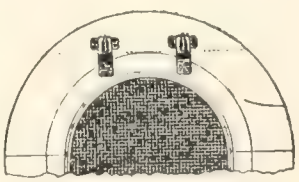


Fig. 6.

Fig. 7.

portant factor in the decorative treatment. The builders' hardware is in such prominence that it sets the style for the entire building. The builder's reputation is sure to suffer if he allows "any old thing" to be used. With builders' hardware, as with most other things pertaining to building, "quality is the only real economy."

Some Styles in this Hardware.

It is interesting to note some of the present day developments in builders' hardware. There are styles here the same as in millinery or dress goods—though they come on more gradually and last longer. The tendency to-day in builders' hardware is decidedly toward simplicity of outline and the return of Colonial standards. This is shown in the decreased demand for ornate designs The substitution of handles with thumb-latches, instead of knobs, and the increased use of glass knobs on inside doors are both decidedly Colonial features. There is also a growing demand for the simple finishes, as the old brass, dull brass and bronze.

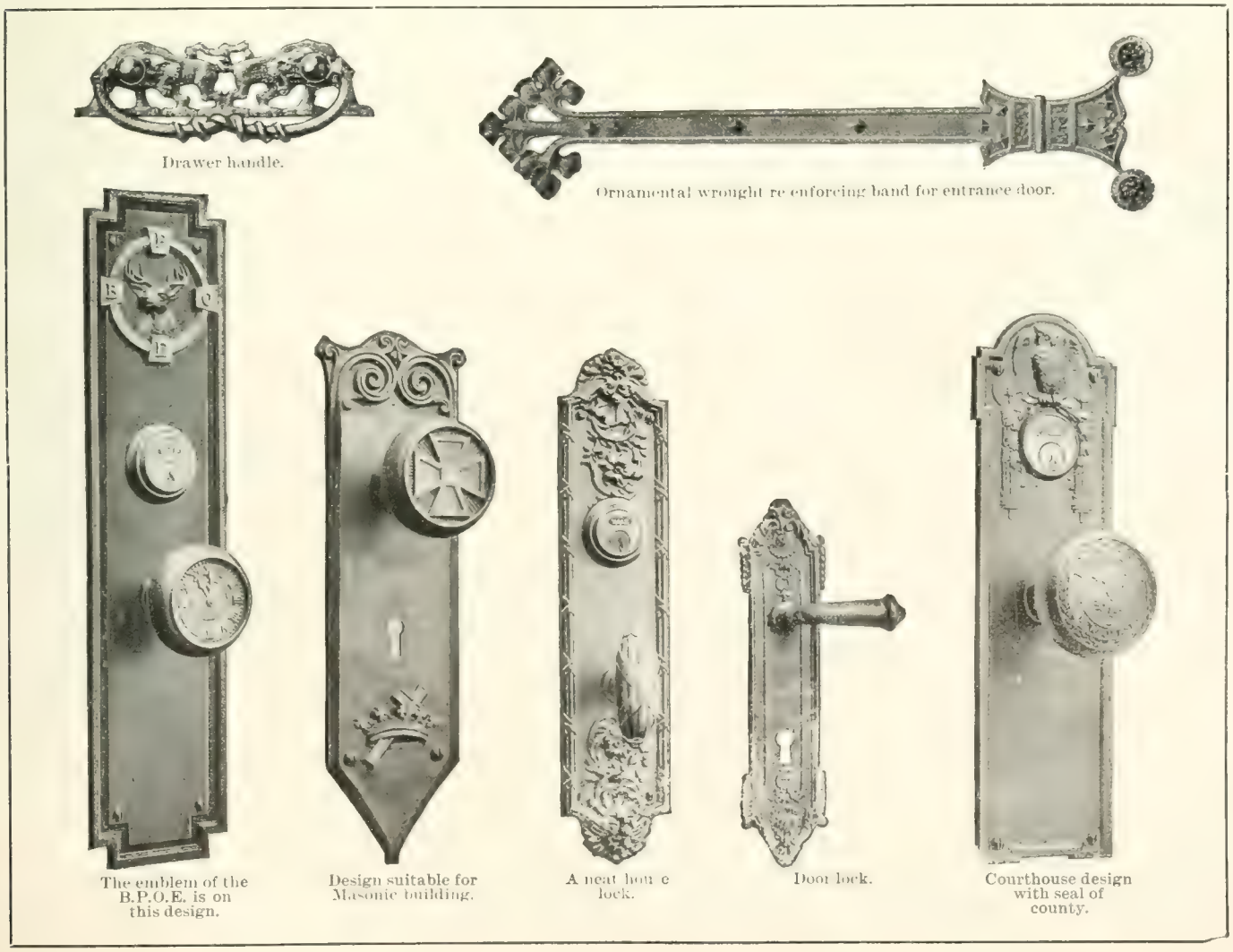
The popularity of casement windows has brought special casement hardware into prominence; and, at the same time, the ingenuity shown by the hardware people in designing sash adjusters, casement locks and bolts, etc., has augmented the popularity of this style of window. We must mention, however, in passing, that a whole lot has yet to be learned by the carpenters and builders, not to mention the planing mill men, about making and hanging casement windows so that the hardware can be put on and operated satisfactorily. Yes, even the architects have something yet to learn about this, as many a practical hardware man can testify to his sorrow. This is an important subject and deserves study. This articles is from American Carpenter and Builder, and we are indebted to the Yale & Towne Manufacturing Co., St. Catharines, manufacturers of builders' hardware, for the illustrations.

A New Book of Plans

The Metal Shingle & Siding Company of Preston, Ontario, are now issuing a new book of barn plans, copies of which will be sent free to subscribers of The Canadian Builder.

Mr. A. A. Gilmore, who is at the head of the Architectural Department of the above concern, is an expert in barn construction, being the originator of the Plank Frame in Canada. Mr. Gilmore has for years been giving the result of his researches to the Canadian farmer through the columns of the representative farm papers of the country, answering their building questions and giving advice. Being backed by the Metal Shingle & Siding Company, Mr. Gilmore is now better able to co-operate with local builders in getting out special plans, estimates, and specifications.

It is the intention of the above concern to give Mr. Gilmore's services free to all of their customers during the next year. A card to the firm telling your occupation will bring the plans free.



Large Sheet Metal Firms are Consolidated

One of the most important developments of the year in the metal trades was the completion of arrangements for consolidating The Metal Shingle and Siding Co., and A. B. Ormsby Co., together with the Canadian interests of the United States Metal Products Co. of New York.

The Metal Shingle and Siding Co., are manufacturers of herringbone lath, metal roofings, sidings, ceilings, portable steel garages, steel buildings and other lines of sheet metal building goods.

A. B. Ormsby Co. have specialized in the manufacture of fireproof doors and windows, kalamined doors and trim, for interior finish, skylights, ventilators, factory sash, etc.

The United States Metal Products Co. are one of the largest manufacturers in the United States of sheet metal fireproofing materials and control many Canadian patents covering revolving doors, solid steel and hollow metal doors and trim, hollow bronze and bronze covered doors and kindred lines.

The consolidation will comprise the plants located at Montreal, Preston, Toronto, Winnipeg and Saskatoon. A new charter has been secured for increasing the capitalization of the business, and the consolidation will facilitate the addition of new departments to the business. One of the most important developments which the new company has in view is the erection of a large new plant for the manufacture of solid steel doors and trim, hollow bronze and bronze covered doors, revolving doors, industrial sash and other high grade materials.

The Directors of the new company will be C. Dolph, Preston; A. B. Ormsby, Toronto; A. K. Cameron, Montreal; H. C. Randall, New York, and J. D. Murdoch, Simcoe.

C. Dolph, the President of the consolidated companies, secured his early business training with Clare Bros., stove manufacturers, Preston, Ont. About fifteen years ago he organized the Metal Shingle and Siding Company when the sheet metal industry was a small thing compared with its present proportions. The factory at Preston commenced operations with a staff of four men but under Mr. Dolph's management grew very rapidly until the Metal Shingle and Siding Co., with its plants at Preston, Montreal and Saskatoon, became recognized as one of the leading companies manufacturing sheet metal building goods in Canada.

A. K. Cameron joined the sales staff of The Metal Shingle and Siding Co. in 1904 and showed such marked ability that when the company decided to open a new factory in Montreal Mr. Cameron was appointed to manage it. This was six years ago and the wisdom of the selection of Mr. Cameron as Montreal manager has been shown in the expansion of the firm's business. Mr. Cameron has always enjoyed the confidence of the management of the company and his counsel and advice has materially assisted in the success of the business, and as a director of the new company he will be given ample scope for his energy and ability.

A. B. Ormsby is one of the best known men among the architectural sheet metal workers in Canada. Twenty-five years ago Mr. Ormsby established his business for the manufacture of fireproof doors and windows. He was the pioneer of this industry in Canada, and The A. B. Ormsby Co., under his guidance has fulfilled many of the most important contracts let in Canada for the manufacture and installation of fireproof doors and windows, kalamined doors, and other sheet metal fireproof materials.

The Montreal branch of the consolidated companies will specialize on expanded metal, structural steel metal work, metal windows, steel ceiling work, skylights and kindred lines. It will be under the direct charge of A. K. Cameron who has managed the Montreal end of the business since it was established in 1906.

The Toronto plant, which will be under the management of A. B. Ormsby, will thus have the advantage of his long experience in the fireproof door and window business. With the increased facilities which are being planned for the Toronto factory and the new lines which are being added, this plant will be in a position to furnish promptly all of the lines formerly manufactured as well as new ones.

The head office of the company will continue to be in Preston and the factory at that point will be under the management of Mr. Dolph, the president of the company. At this plant the firm's well established line of metal shingles, sidings, corrugated sheets, etc., will be produced. The enlargement of the Preston plant for the manufacture of several new lines will be proceeded with in the near future.

The Winnipeg branch will be in charge of Mr. C. Bordman and will continue its present lines, such as fireproof doors and windows, metal cornices, skylights, etc.

In joint charge of the Saskatoon branch will be Messrs. Charleboise and Moser. It will manufacture cornices, skylights, steel granaries, roofing, sidings and similar lines and will also act as distributing agents for the company's other lines.

Selling agencies will be established in all the important cities in the Dominion.

The new company is fortunate in having associated with it the United States Metal Products Co. of New York, a company which is one of the largest in the United States, manufacturing revolving doors, solid steel and hollow metal doors and trim, hollow bronze and bronze covered doors, factory sash and kindred lines. This company will equip the Canadian factory with an up-to-date plant for the manufacture of the above lines and will furnish competent engineers and estimators to assist in securing business, thus giving the Canadian company the benefit of the experimental work which they have for years carried on in the United States. They will also lend the new company their co-operation in every way possible to develop the Canadian field.

Season's Greetings to Our Readers

Christmas comes at midnight when the dark shadows move like ghosts of the past. No polar lights that shine in the north can be more lonesome than the man without a friend at Christmas. Nor can there be anything more desolate than the man sitting alone before the fireplace, or the lone woman listening to the Christmas carols over the snow-laden winds—Peace on Earth.

To our readers we wish at this Christmastide, joyous comradeship and the satisfaction of a season's work well done. Canada holds great things in store for the man who builds on sure foundations, for those who "do things." May each house erected be a monument to the far-sightedness and good workmanship of Canadian builders. May you share in the growth that Canada is enjoying at the present time—and may you never want a friend.

The Architect's Specification and the Builder

After reading the architects' specifications over carefully, ask if there is anything to do that the specifications do not give. This will often save controversy later, as to whether or not you should do some work which was not mentioned in the specifications, but may have been shown in the plans, or not even shown in the plans.

There may be storm doors, storm sash, hall and window seats and other things of which the specifications give no hint. Again there may be mantles which are to be put up by the owner. This should be stated in the woodworker's specifications, and if they have not been finished at the factory, you'll probably be requested to finish them without pay. Thus it pays to look over all the specifications.

When working from architects' specifications, make a human interrogation point of yourself. It will put you on the safe side. It will pay.

The Building Inspector's annual report shows a remarkable growth in Hamilton this last year. It shows that 50 firms have taken out permits for new factories or factory extensions to the value of $1,234,230. Twelve new factories with an invested capital of over two million dollars have located here during the past year. The building permits to October 31, 1912, are 1,356 permits, value $5,011,800, show an increase of 148 permits, value $1,127,170, over the same period for 1911. The population of the city, 90,000, shows an increase of 8,000 for the last twelve months. The assessment for 1912 of $67,113,867 shows an increase of $14,363,983.

Barrett Specification Roofs

A Mile of Barrett Specification Roofs

The wonderful Bush Terminal in Brooklyn, New York, illustrated below, includes 181 buildings comprising tremendous warehouses, enormous pier sheds for docking ocean steamers, huge factory buildings, a large modern power house and an enormous freight structure.

These buildings stretch for a mile along New York harbor. Their total roof area is 3,100,000 square feet—more than seventy acres.

This entire area was covered with Barrett Specification type of roofs, for the following reasons:

1. Low first cost.
2. No maintenance expense, such as painting, etc.
3. They are not injured by steam, gases and acid fumes.
4. They are fire retardent and take the base rate of insurance.
5. The net unit cost, that is, the cost per foot per year of service, is lower than that of any other type.

Although some of the buildings are fifteen years old, the roofing contractor states that the expense for maintenance of this entire roof area has been less than $10.00. He estimates that if metal or ready roofings had been used, it would have been impossible to keep the buildings free from leaks and that the painting bill alone up to date would probably have amounted to at least $50,000.00.

We wrote to the Bush Terminal Company, asking what they thought about Barrett Specification Roofs. The Vice-President replied:

> "We use this kind of roofing because our experience has shown it to be the best and cheapest. Our analysis of first cost of application and cost of maintenance entitles us to speak with some measure of authority."

We shall be pleased to mail architects, engineers or owners of buildings copy of the Barrett Specifications with diagrams from which blue prints can be made. Address our nearest office.

THE PATERSON MFG. CO., LIMITED

MONTREAL TORONTO WINNIPEG VANCOUVER ST. JOHN, N.B. HALIFAX, N.S.

Special Note

We advise incorporating into plans the full wording of The Barrett Specification, in order to avoid any misunderstanding.

If any abbreviated form is desired, however, the following is suggested:

ROOFING—Shall be a Barrett Specification Roof laid as directed in printed Specification, revised Aug. 15, 1911, using the materials specified, and subject to the inspection requirements.

Price List of Building Materials—Revised to Date

	PRICE AT MONTREAL	PRICE AT TORONTO	PRICE AT WINNIPEG	PRICE AT VANCOUVER
Hemlock Lumber				
2 x 4 in. to 2 x 12 in., 8 to 14 ft.	$20.00	$25.00		
2 x 4 in. to 2 x 12 in., 16 ft.	22.00	25.00		
2 x 4 in. to 2 x 12 in., 18 ft.		29.00		
1 in. Hemlock No. 1	20.00	23.00 to 25.00		
No. 1 hemlock decking	23.00	25.00		
No. 2 hemlock dimension and 1 in.		17.00 to 20.00		
Pine				
1 in. common pine, 8 to 12 in. wide, rough	$27.00 to 30.00	$27.00 to 30.00		
2 in. white pine, bill stock	29.00 to 33.00	29.00 to 33.00		
7/8 x 8 and 10 in. pine shelving	36.00 to 40.00	36.00 to 40.00		
7/8 x 12 pine shelving	42.00	45.00		
No. 1 white pine flooring	40.00	32.00		
No. 1 spruce flooring	30.00	27.00		
No. 1 pine decking, D2S	40.00	30.00		
Spruce pine decking		26.00		
No. 1 pine V. or beaded sheeting	37.00	35.00		
No. 2 pine V. or beaded sheeting	31.00	31.00		
Pine Trim for Paint Finish				
4 in. casing, per 100 ft.	$2.00	$2.00		
5 in. casing, per 100 ft.	2.00	2.25		
8 in. pine base, per 100 ft.	3.50	3.25		
10 in. pine base, per 100 ft.	4.25	4.25		
4 in. pine window stool, per 100 ft.	2.75	2.75		
Shingles, Lath Roofing, Etc.				
XXX B. C. cedar shingles		$3.75 per M	$4.00 & 3.50 per M	$2.10 & 2.00 per M
X. B. Extras		3.60		
X. B. Clears		2.90		
No. 1 pine lath	5.00	4.75 per M	5.75 per M	2.75 per M
No. 2 pine lath	4.50	4.25		
No. 1 spruce lath	4.00	4.00		
Metal lath			.15 to .19	
Roofing Felt (2 ply)			2.50 per roll	
Cedar Posts—Fence				
5 in. at small end	5c. foot	.25 each		
7 in. at small end	7c. foot	.35 each		
Hardware				
Nails, wire, common	$2.35 base keg	$2.40 cwt.	$3.70 per keg	$3.25 per keg
Nails, cut, common	2.55 " "	2.75	3.70	4.25
Sash weights, cast iron	1.50 per 100 lbs.	1.65		
Tarred felt paper	.40 roll	1.65	.90 per roll	.62½ per roll
Building paper	.30 roll		.75	.70
Insulating paper			1.25	
Brick, Tile, Terra Cotta, Sewer Pipe				
No. 1 dry pressed red brick	19.50	$18.00 per M	$25.00 to 50.00	$45.00 per M
No. 1 dry pressed buff bricks	20.50	18.00	25.00 to 50.00	45.00
Red stock bricks	11.00	12.00	13.00	13.50
Grey stock bricks		11.00		
Wire cut bricks for foundation work		11.00		
Porous terra cotta bricks		15.00	$15.00 per M	
No. 1 enamelled bricks, all colors, from		80.00 to 150.00	100.00	
Fire brick	25.00		45.00	45.00
Roofing tile			.15 per ft.	
Sewer pipe, 4 inch	10c. foot		.08½ per ft.	.15 per ft.
Sewer pipe, 6 inch	15c. foot		.16½ per ft.	
Cement, Plaster, Stone, Etc.				
Cement (bags extra)	1.80 bbl.	$1.90 bag	$2.50 per bbl.	$3.25 per bbl.
Sand, for cement or brick work	1.00 ton	1.15 a yard	1.75 a yard	
Lime	12.00	.30 cwt.	.32 per bu.	1.35 per bbl.
Hydrated lime	13.00	10.00 ton	12.00 per ton	4.25 per bbl.
Mortar color	5.00 bbl.	black, 3½; red, 1½	.05 per lb.	
Plaster of paris	2.35	3.10 bbl.	4.00 per bbl.	4.25 per bbl.
Crushed stone, 2 in.	1.50 ton	1.30	2.75 per yard	
Crushed stone, 1 in.	1.60	1.35	2.75	
Crushed stone, 3/8 in.	1.75	1.45	2.75	
Hardwall plaster	$12.50 neat	$12.00 neat	12.50 per ton	15.00 per ton
	6.00 sanded ton	6.00 sanded		
Gravel	1.85 ton		1.85 per yard	
Hair (plaster)	.03 per lb.	.04 lb.	1.25 per bale	15.00 per ton

NOTE TO READERS. We would be glad to have suggestions from readers as to the extension or modification of this list.

CLASSIFIED DIRECTORY—A BUYER'S GUIDE FOR BUILDERS IN CANADA

Asbestos
Asbestos Mfg. Co., Montreal.

Asbestos Goods
Asbestos Mfg. Co., Montreal.

Alabastine.
Alabastine Co., Paris, Ont.

Automatic Gas-Steam Boilers.
Consumers' Gas Co., Toronto.

Bath Tubs.
Standard Ideal Co., Port Hope, Ont.

Beaded Sheets.
Metal Shingle & Siding Co., Preston, Ont.

Burial Vault Molds.
Ideal Concrete Machinery Co., London, Ont.

Closets.
Standard Ideal Co., Port Hope, Ont.

Ceilings, Metal.
Metal Shingle & Siding Co., Preston, Ont.

Ceilings and Walls, Embossed Steel.
Galt Art Metal Co., Galt, Ont.

Colors for Concrete.
Ideal Concrete Machinery Co., London, Ont.

Concrete Block Machines.
Ideal Concrete Machinery Co., London, Ont.
Wettlaufer Bros., Toronto.

Concrete Brick Machine.
Ideal Concrete Machinery Co., London, Ont.
Wettlaufer Bros., Toronto.

Concrete Sill, Lintel and Dimension Stone Machines.
Ideal Concrete Machinery Co., London, Ont.

Concrete Mixers.
Ideal Concrete Machinery Co., London, Ont.
Wettlaufer Bros., Toronto.

Concrete Tile Machines.
Wettlaufer Bros., Toronto.

Concrete Reinforcements.
Metal Shingle & Siding Co., Preston, Ont.

Cornices, Galvanized or Copper.
Galt Art Metal Co., Galt, Ont.

Corrugated Sheets (Asbestos)
Asbestos Mfg. Co., Montreal.

Corrugated Sheets (Steel)
Galt Art Metal Co., Galt, Ont.
Metal Shingle & Siding Co., Preston, Ont.

Crestings.
Metal Shingle & Siding Co., Preston, Ont.

Curb Stone Machines.
Ideal Concrete Machinery Co., London, Ont.

Cutouts.
Duncan Electrical Co., Montreal.

Daylight Rods.
Consolidated Plate Glass Co., Toronto.

Derricks.
Ideal Concrete Machinery Co., London, Ont.

Doors.
Canada Lumber Co., Toronto.
L. A. DeLaplante, Limited, Toronto.
Georgian Bay Shook Mills, Limited, Midland, Ont.

Door Trimmings.
Metal Shingle & Siding Co., Preston, Ont.

Drinking Fountains.
Standard Ideal Co., Port Hope, Ont.

Eavestrough.
Metal Shingle & Siding Co., Preston, Ont.

Eave-Trough and Conductor-Pipe.
Galt Art Metal Co., Galt, Ont.
Metal Shingle & Siding Co., Preston, Ont.

Electrical Specialties.
Duncan Electrical Co., Montreal.

Expanded Metal.
Galt Art Metal Co., Galt, Ont.

Fences.
George B. Meadows, Toronto.

Finials.
Galt Art Metal Co., Galt, Ont.
Metal Shingle & Siding Co., Preston, Ont.

Fire Escapes.
George B. Meadows, Toronto.

Fireproof Windows.
Galt Art Metal Co., Galt, Ont.
Metal Shingle & Siding Co., Preston, Ont.

Flooring, Hardwood.
Georgian Bay Shook Mills, Midland, Ont.

Floor Scrapers.
Fox Supply Co., Brooklyn, Wis.
Hurley Machine Co., Limited, Toronto.

Forge and Rivet Heaters.
Consumers' Gas Co., Toronto.

Galvanized Chain Pumps.
Metal Shingle & Siding Co., Preston, Ont.

Galvanized Iron Cornices.
Metal Shingle & Siding Co., Preston, Ont.

Galvanized Tanks.
Metal Shingle & Siding Co., Preston, Ont.

Gas Blow Pipes.
Consumers' Gas Co., Toronto.

Gas Engines.
Consumers' Gas Co., Toronto.

Gas Furnaces.
Consumers' Gas Co., Toronto.

Gas Lighting Appliances.
Consumers' Gas Co., Toronto.

Gas Fixtures.
Consumers' Gas Co., Toronto.

Gas Piping.
Consumers' Gas Co., Toronto.

Gas Ranges.
Consumers' Gas Co., Toronto.

Gas Water Heaters.
Consumers' Gas Co., Toronto.

Gates.
George B. Meadows, Toronto.

Glass.
Consolidated Plate Glass Co., Toronto.

Glue Pot Heaters.
Consumers' Gas Co., Toronto.

Granite (Crushed)
Sand & Supplies, Toronto.

Hammers.
Double Claw Hammer Co., Brooklyn, N.Y.
Lewis Bros., Montreal.

Hand Scrapers.
Fox Supply Co., Brooklyn, Wis.

Herringbone Lath.
Metal Shingle & Siding Co., Preston, Ont.

Hoists.
Wettlaufer Bros., Toronto.

Incinerators.
Standard Ideal Co., Port Hope, Ont.

Interior House Finish.
L. A. DeLaplante, Limited, Toronto.
Georgian Bay Shook Mills, Midland, Ont.

Lath.
Galt Art Metal Co., Galt, Ont.

Laundry Tubs.
Standard Ideal Co., Port Hope, Ont.

Lumber
Canada Lumber Co., Toronto.

Metal Roofing and Siding.
Galt Art Metal Co., Galt, Ont.

Mortar Gauges.
Ideal Concrete Machinery Co., London, Ont.

Mouldings.
L. A. DeLaplante, Limited, Toronto.
Georgian Bay Shook Mills, Limited, Midland, Ont.

Ornamental Iron Work.
George B. Meadows, Toronto.

Ornamental Molds.
Ideal Concrete Machinery Co., London, Ont.

Plaster.
Alabastine Co., Limited, Toronto.

Plaster Corner Bead.
Metal Shingle & Siding Co., Preston, Ont.

Plaster Paris.
Alabastine Co., Paris, Ont.

Plumbing Goods.
Standard Ideal Co., Limited, Port Hope.

Pulpstone.
Alabastine Co., Paris, Ont.

Pumps.
Wettlaufer Bros., Toronto.

Railings.
George B. Meadows, Toronto

Receptacles (Electrical).
Duncan Electrical Co., Montreal.

Ridge, Galvanized.
Metal Shingle & Siding Co., Preston, Ont.

Ridgings.
Metal Shingle & Siding Co., Preston, Ont.

Roofing.
Asbestos Mfg. Co., Montreal.
Galt Art Metal Co., Galt, Ont.
Metal Shingle & Siding Co., Preston, Ont.
Patterson Mfg. Co., Limited, Toronto.

Sand and Gravel
Sand & Supplies, Toronto.

Sash.
L. A. DeLaplante, Limited, Toronto.
Georgian Bay Shook Mills, Limited Midland, Ont.

Scraper Knives.
Fox Supply Co., Brooklyn, Wis.

Scrapers.
Fox Supply Co., Brooklyn, Wis.
Hurley Machine Co., Toronto.

Scraper Sharpening Device.
Fox Supply Co., Brooklyn, Wis.

Seats, Implement.
Galt Art Metal Co., Galt, Ont.

CLASSIFIED DIRECTORY—*Continued*

Sewer Pipe Molds.
Ideal Concrete Machinery Co., London, Ont.

Sockets, Brass and Porcelain.
Duncan Electrical Co., Montreal.

Soil Pipe.
Standard Ideal Co., Port Hope, Ont.

Soil Pipe Fittings.
Standard Ideal Co., Port Hope, Ont.

Soldering Iron Heaters.
Consumers' Gas Co., Toronto.

Shingles, Galvanized Steel.
Galt Art Metal Co., Galt, Ont.

Shingles, Metal.
Metal Shingle & Siding Co., Preston, Ont.

Shooks.
Georgian Bay Shook Mills, Midland, Ont.

Skylights.
Galt Art Metal Co., Galt, Ont.
Metal Shingle & Siding Co., Preston, Ont.

Sidewalk Prisms.
Consolidated Plate Glass Co., Toronto.

Siding, Steel.
Galt Art Metal Co., Galt, Ont.

Sill and Cap Molds.
Ideal Concrete Machinery Co., London, Ont.

Sinks (Kitchen and Wash).
Standard Ideal Co., Port Hope, Ont.

Spanish Roofing Tile Machines.
Ideal Concrete Machinery Co., London, Ont.

Stairs, Iron.
George B. Meadows, Toronto

Stanchions.
Metal Shingle & Siding Co., Preston, Ont.

Steel Buildings and Garages.
Metal Shingle & Siding Co., Preston, Ont.

Steel Ceilings and Walls.
Galt Art Metal Co., Galt, Ont.

Stone (Crushed)
Sand & Supplies, Toronto.

Store Front Bars.
Consolidated Plate Glass Co., Toronto

Terra Cotta.
Toronto Plate Glass Importing Co., Toronto.

Thimbles.
Metal Shingle & Siding Co., Preston, Ont.

Urinals.
Standard Ideal Co., Port Hope, Ont.

Valley, Galvanized.
Metal Shingle & Siding Co., Preston, Ont.

"V" Crimp Roofing and Siding.
Metal Shingle & Siding Co., Preston Ont.

Ventilators.
Galt Art Metal Co., Galt, Ont.
Metal Shingle & Siding Co., Preston, Ont.

Wall Plugs.
Ideal Concrete Machinery Co., London Ont.

Wall Coating.
Alabastine Co., Paris, Ont.

Waterproofing.
Ideal Concrete Machinery Co., London, Ont.

Watering Bowls for Stock.
Metal Shingle & Siding Co., Preston, Ont.

Window Trimmings.
Metal Shingle & Siding Co., Preston, Ont.

Wire Work.
George B. Meadows, Toronto.

Woodworkers.
Elliot Woodworker Co., Toronto.
Parks Ball Bearing Machine Co., Cincinnati, Ohio.

Index to Advertisements

Of Interest to Present Advertisers and Future Advertisers in The Canadian Builder

¶ The paid circulation of this issue of The Canadian Builder and Carpenter is 5,000.

The paid circulation 8 months ago was less than 1,000.

¶ This indicates in a very practical way how popular this paper has become with builders and carpenters in Canada.

¶ The letters we have received from advertisers telling of the very satisfactory results they have had from their advertising shows that subscribers read the advertisements as well as the reading matter.

¶ If you have something to sell to builders and carpenters in Canada, advertising in The Canadian Builder and Carpenter ***will pay you well.*** One advertiser in the paper states that most of the business he has had during the past summer has come directly through his advertising in The Canadian Builder.

The Commercial Press, Limited

32 Colborne St., Toronto